Flextec™ 650

Processes
Stick, DC TIG, MIG, Flux-Cored, SAW, Arc Gouging

Product Number
K3060-1

See back for complete specs

Input Voltage
380/460/575/3/50/60

Input Current at Rated Output
3 Ph / 100% Duty Cycle: 57/47/38A

Rated Output
650A/44V/100%

Output Range
10 - 815 Amps

Weight/Dimensions (H x W x D)
165 lbs. (74.8 Kg)
21.83 x 16.1 x 29.33 in.
(555 x 409 x 745 mm)

FLEXible TEChnology℠

This multi-process welder delivers up to 815 amps of welding power for a variety of applications, including construction and fabrication. It features an IP23 rating for outdoor operation and storage, and the latest inverter technology will save you real dollars on the utility costs associated with your welding operations.

FEATURES

- **Flexible Multi-Process Capability** – Including stick, Touch Start TIG® (DC), MIG, flux-cored, CV submerged arc welding and carbon arc gouging with up to a 1/2 in. (12.7 mm) carbon.
- **The Future is Now℠** – You no longer have to pay a price premium to gain the advantages of inverter technology over conventional welders.
  - Faster arc response means smoother arc action and more consistent bead appearance.
  - Low power consumption results in daily operational cost savings.
  - Enhanced portability – typically 50% less weight, size and footprint.
- **Standard 15A 115 Volt Auxiliary Power** – For 115 volt wire feeders, grinders, or lights.
- **Simple Operation** – The user interface is designed with the operator in mind. Set up is easy for even the most novice welder.
- **Bright Digital Amp and Volt Meters** – Easy to monitor, even in sunlight, and presettable for precise procedure control.
- **Compact, Durable Case** – Tough IP23 enclosure ensures the Flextec™ 650 will withstand extreme field environments.
- **Fully Adjustable Hot Start** – Turn it to zero for thin material or dial it up to get the extra starting amperage you need for thick, rusty or dirty material.

APPLICATIONS

- **Construction**
- **Fabrication**
- **Automotive**
- **Production**
- **Education**

Shown K3060-1

WHAT'S INCLUDED

K3060-1 Base Unit Includes:

- Power Source

RECOMMENDED WIRE FEEDERS

- LF-72, LF-74
- LN-10, DH-10
- Activ8™
- LN-25 PRO, LN-25 PRO Dual Power
- LN-25 Pipe
- LN-7, LN-8, LN-9, NA Series, LT-7

INPUT

3 PHASE
50/60 Hz

OUTPUT

CC CV
DC

3 YEAR WARRANTY
AÑOS DE GARANTIA
ANS DE GARANTIE
PARTS AND LABOR
PARTES Y MANO DE OBRA
PIÈCES ET MAIN D'OEUVRE

Two Year Extended Warranty Available in the U.S.A. and Canada

FEATURES CONT'D

- **Variable Arc Control** – In stick mode, vary the arc force to obtain the "soft" or "crisp" arc you want as conditions require. In CV modes, vary the pinch or inductance to control spatter, fluidity and bead appearance.
- **Full-Featured Remote Control Capability** – Use a foot pedal or hand control to remotely vary output up to 100 ft. (30.5 m) away.
- **Desert Duty® Rated** – Welding outputs are rated for extreme temperature operation up to 55°C.

DESERT DUTY 55°C 40°C

THE LINCOLN ELECTRIC GREEN INITIATIVE
Inverter Technology
reduces energy demand
www.lincolnelectric.com/green

ISO 9001:2000 14001:2004 CERTIFIED FACILITY
MANUFACTURED AT AN

Web Update: 10/12
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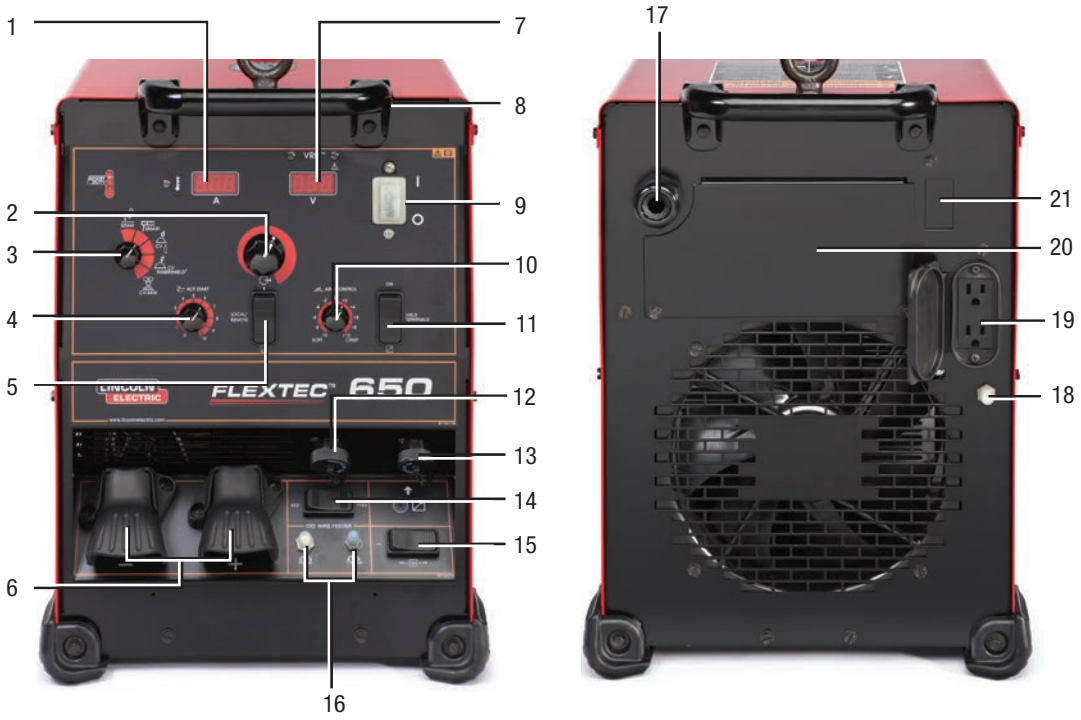
LINCOLN ELECTRIC®
THE WELDING EXPERTS®

KEY CONTROLS

1. Digital Amp Meter
2. Output Control
3. Welding Process Mode
4. Hot Start Control
5. Local/Remote Output Switch
6. Weld Output Terminal
7. Digital Volt Meter
8. Reversible Handles (Patent Pending)
9. Power On/Off
10. Arc Control
11. Weld Terminal On/Off Switch
12. 14 pin Feeder Control Connection
13. 6 pin Remote Control Connection
14. Wire Feeder Input Voltage Switch
15. Feeder Meter Polarity Switch
16. Circuit Breakers for Wire Feeder Connection
17. Input Power
18. Circuit Breaker for 115V Auxiliary Power Receptacle
19. 115V Auxiliary Power Receptacle
20. Access Panel for Input Power Reconnect
21. Optional GFCI protection knockout



SYSTEM SELECTION

Ready-Pak® Packages are assembled and shipped on one pallet. **One-Pak® Packages** are not assembled. All packages can be ordered using a single Product Number (K#). Welding wire and shielding gas must be ordered separately.

Flextec™ 650 / LF-72 Heavy Duty Ready-Pak®, Includes:
- Flextec™ 650 (K3060-1)
- LF-72 Bench Model, Heavy Duty (K2327-7)
  - Heavy Duty Wire Reel Stand
  - Drive Roll and Wire Guide Kit .035-.045 (KP1696-1)
  - Control Cable 10 ft. (3 m)
- Magnum® PRO Curve™ 400 Gun and Cable Assembly (K2952-2-10-45)
- 3/0 Welding Cable (K1842-10)
- Work Lead Package (K2149-1)
- Harris® Flowmeter Regulator and Hose (3100211)
- Inverter and Wire Feeder Cart (K3059-2)

Order K3145-1

Flextec™ 650 / LN-10 Wire Feeder One-Pak®, Includes:
- Flextec™ 650 (K3060-1)
- LN-10 Bench Model, (K1559-3)
  - Drive Roll and Wire Guide Kit 1/16 in. Cored (KP1505-1/16C)
  - Control Cable 10 ft. (3 m)
- Magnum® PRO Curve™ 400 Gun and Cable Assembly (K2952-2)
  - Gun Connector Kit (K466-10)
  - Gun Liner 1/16 in. (KP44-116-15)
- 3/0 Welding Cable (K1842-10)
- Work Lead Package (K2149-1)
- Harris® Flowmeter Regulator and Hose (3100211)

Order K3158-1

Flextec™ 650 / LF-74 Heavy Duty Ready-Pak®, Includes:
- Flextec™ 650 (K3060-1)
- LF-74 Bench Model, Heavy Duty (K2426-5)
  - Heavy Duty Wire Reel Stand
  - Drive Roll and Wire Guide Kit 1/16 in. Cored (KP1505-1/16C)
  - Control Cable 10 ft. (3 m)
- Magnum® PRO Curve™ 400 Gun and Cable Assembly (K2952-2)
  - Gun Connector Kit (K466-10)
  - Gun Liner 1/16 in. (KP44-116-15)
- 3/0 Welding Cable (K1842-10)
- Work Lead Package (K2149-1)
- Harris® Flowmeter Regulator and Hose (3100211)
- Inverter and Wire Feeder Cart (K3059-2)

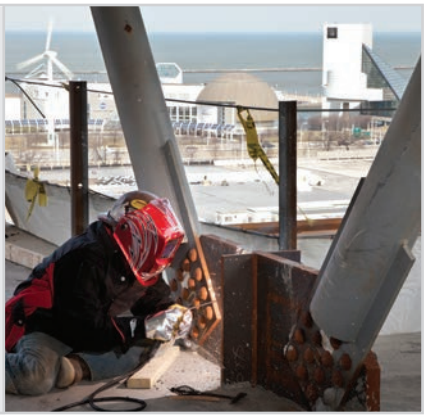
Order K3146-1

Flextec™ 650 / LF-74 Heavy Duty One-Pak®, Includes:
- Flextec™ 650 (K3060-1)
- LF-74 Bench Model, Heavy Duty (K2426-5)
  - Heavy Duty Wire Reel Stand
  - Drive Roll and Wire Guide Kit 1/16 in. Cored (KP1505-1/16C)
  - Control Cable 10 ft. (3 m)
- Magnum® PRO Curve™ 400 Gun and Cable Assembly (K2952-2)
  - Gun Connector Kit (K466-10)
  - Gun Liner 1/16 in. (KP44-116-15)
- 3/0 Welding Cable (K1842-10)
- Work Lead Package (K2149-1)
- Harris® Flowmeter Regulator and Hose (3100211)

Order K3147-1

Flextec™ 650 4-Pack Rack
- **Order K3144-1**

See Lincoln Electric bulletin E5.92 for more detailed rack information.



ENERGY SAVINGS

The inverter technology of the Flextec™ 650 yields a higher efficiency and power factor compared to similar conventional power sources.

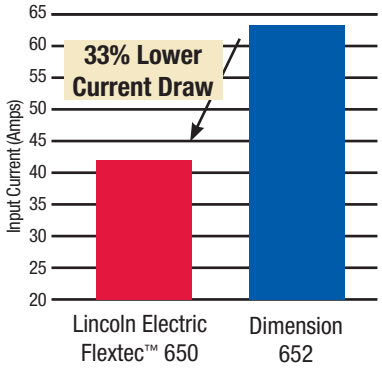
Flextec™ Energy Savings		
	Lincoln Electric Flextec™ 650	Miller Electric Dimension 652
Efficiency @ 650 Amps	90%	83%
Power Factor @ 650 Amps	.88	.72

THE LINCOLN ELECTRIC GREEN INITIATIVE
Inverter Technology
reduces energy demand
www.lincolnelectric.com/green

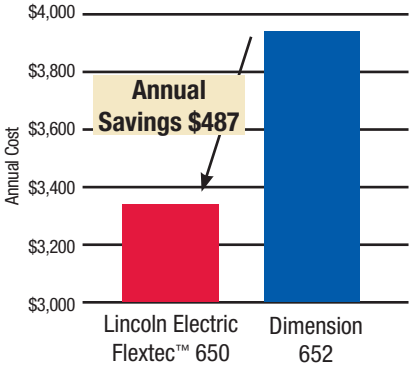
The Result is:

- Lower input current at the same output saves on input cable and fuse costs.
- Lower power consumption results in annual operating cost savings.

Input Current Draw @ 650A Output

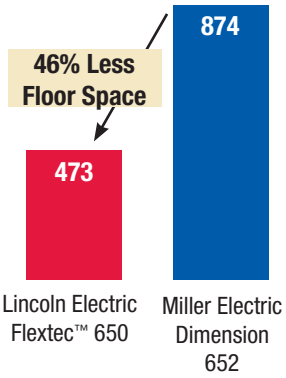


Typical Energy & Demand Costs(1) @ 650A Output



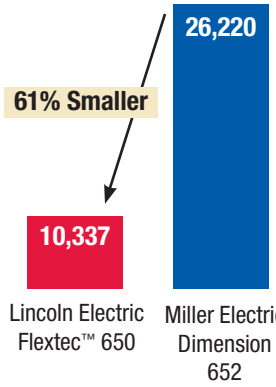
(1) Based on: Two shifts, 8 hrs/day 5 days/week, 50 weeks/yr, 30% Operating Factor. Electric Rates of $0.07/KWH and a demand charge of $8/KW.

Floor Space (sq. in)



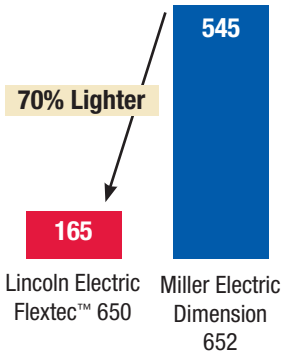
- 46% less floor space than a conventional multi-process machine

Size (cu. in)



- 61% smaller than a conventional multi-process machine

Weight (lbs.)



- 70% lighter than a conventional multi-process machine

The trademarks Miller Electric® and Dimension™ are the property of Illinois Tool Works Inc. Competitive dimension data was based on published literature available at the time of printing. Actual input power and input current draw product testing was completed by Lincoln Electric personnel in Cleveland, Ohio in March, 2010. Testing results were complete and accurate at the time of posting on www.lincolnelectric.com in April, 2010.

QUALITY AND RELIABILITY

Tough PC Boards - Encapsulated components and protective trays provide best-in-class environmental protection from dust and humidity.

Fan-As-Needed™ - Reduces power consumption, dirt intake and damaging thermal cycling.

Protected Electrical Connections - Help ensure long-term reliability in unforgiving environments.

Temperature and Dirt Resistant - Double insulation and epoxy on all primary components.

Repeated Life and Reliability Testing - Salt, rain, humidity, drop, jerk, vibration, impact and others.

IP23 Rated – While the fan is operating, the machine is subjected to a rain shower that directs water 60 degrees from vertical. While the machine is still wet, it must withstand a high voltage dielectric test and an insulation resistance test.

Among other tests, Flextec™ models are subjected to extreme temperature environmental testing, including heat, cold, humidity, rain and dust.

LINCOLN ELECTRIC
THE WELDING EXPERTS®

RECOMMENDED ACCESSORIES

GENERAL OPTIONS

Deluxe Adjustable Gas Regulato & Hose Kit
Accommodates CO_2, Argon, or Argon-blend gas cylinders. Includes a cylinder pressure gauge dual scale flow gauge and 4.3 ft. (1.3 m) gas hose.
Order K586-1

Harris® Argon Flowmeter/ Regulator and Hose Kit
Order 3100211

Inverter and Wire Feeder Cart
Rear-wheeled cart with front casters and gas bottle platform. Convenient handles allow for easy cable storage. Small footprint fits through 30 in. (762 mm) door. Not intended for use with double head wire feeders.
Order K3059-2

Dual Cylinder Inverter & Wire Feeder Cart
Rear-wheeled cart with front casters and dual cylinder platform. Convenient handles allow for easy cable storage. Small footprint fits through 30 inch (762 mm) door.
Order K3059-3

Work Lead Package
4/0 cable lugged at one end with work clamp attached at the other end. 15 ft. (4.6 m) length.
K2149-1

Weld Power Cable
Lug to lug, 3/0, 600A, 60% duty cycle. 10 ft. (3.0 m).
K1842-10

Arc Tracker™
The Arc Tracker™ monitors information regarding your welding arc by connecting it between any DC welding power source and the work clamp.
K3019-1

GFCI Kit
Includes one UL approved 120V blank face ground fault circuit interrupter and installation instructions. Connects in series with the 120V receptacle on the Flextec™ 650 via a terminal strip inside the welder, and mounts to the case back near the existing receptacle. The receptacle rating is maintained at 15A after the GFCI is installed.
K3157-1

Weld Fume Control Solutions
Lincoln Electric offers a wide variety of weld fume control solutions, ranging from portable systems easily wheeled around the shop to shop-wide central systems servicing many dedicated welding stations.
Request Publication MC08-70

STICK OPTIONS

Accessory Kit
For stick welding. Includes 35 ft. (10.7 m) 2/0 electrode cable with lug, 30 ft. (9.1 m) 2/0 work cable with lugs, headshield, filter plate, cover plate, work clamp and electrode holder. 400 amp capacity.
Order K704

Accessory Kit
For stick welding. Includes 20 ft. (6.1 m) #6 electrode cable with lug, 15 ft. (4.6 m) #6 work cable with lugs, headshield, work clamp, and electrode holder. 150 amp capacity.
Order K875

Remote Output Control
Consists of a control box with choice of two cable lengths. Permits remote adjustment of output.
Order K857 for 25 ft. (7.6 m)
Order K857-1 for 100 ft. (30 m)

TIG OPTIONS

Pro-Torch™ TIG Torches
A full line of air-cooled and water-cooled torches available. Request Lincoln publication E12.150

Hand Amptrol™
Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection)
Order K963-3

Foot Amptrol™
Provides 25 ft. (7.6 m) of remote current control for TIG welding. (6-pin plug connection).
Order K870

Arc Start Switch
May be used in place of the Foot or Hand Amptrol™. Comes with a 25 ft. (7.6 m) cable. Attaches to the TIG torch for convenient finger control to start and stop the weld cycle at the current set on the machine.
Order K814

WIRE FEEDER OPTIONS

Multi-Process Switch
Easily switch between CC and CV processes.
Order K3091-1

PRODUCT SPECIFICATIONS

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D inches (mm)	Net Weight lbs. (kg)
Flextec™ 650	K3060-1	380/460/575/3/50/60	650A/44V/100% 750A/44V/60% Desert Duty™ Rated: 600A/44V/100%/55ºC 650A/44V/50%/55ºC 750A/44V/30%/55ºC	57/47/38A 61/50/40A	10-815 Amps	21.8 x 16.1 x 29.3 (554 x 409 x 584)	165 (74.8)
Flextec™ 650/LF-72 Heavy Duty Ready-Pak®	K3145-1						395 (179)
Flextec™ 650/LF-74 Heavy Duty Ready-Pak®	K3146-1						395 (179)
Flextec™ 650/LF-74 Heavy Duty One-Pak®	K3147-1						—
Flextec™ 650/LN-10 One-Pak®	K3158-1						—
4-Pack Rack Flextec™ 650	K3144-1					70.25 x 37.5 x 33.0 (1784 x 952 x 838)	960 (435)

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables.
Visit www.lincolnelectric.com for more details.

CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

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